

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q66584

Masayuki NAYA, et al.

Appln. No.: 10/053,585

Group Art Unit: 1641

Confirmation No.: 3468

Examiner: Christopher L. Chin

Filed: January 24, 2002

For: SURFACE PLASMON RESONANCE MEASURING CHIP AND METHOD OF  
MANUFACTURE THEREOF

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

**MAIL STOP AF - PATENTS**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Pursuant to the Pre-Appeal Brief Conference Pilot Program, and further to the Examiner's Final Office Action dated November 5, 2007, Applicant files this Pre-Appeal Brief Request for Review. This Request is also accompanied by the filing of a Notice of Appeal.

**Status of the Application**

Claims 1-12 and 14-25 are all the claims pending in the application. The following rejections are at issue:

**I. Double Patenting**

Claims 1-6 and 14-18 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of U.S. Patent No. 6,597,456 in view of Natsuume et al.

**II. Claim Rejections under 35 U.S.C. § 102**

Claims 1-3 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Naya et al. (U.S. Patent No. 6,611,367).

**III. Claim Rejections under 35 U.S.C. § 103**

Claims 4-6 and 22-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Naya et al. in view of Natsumme et al.

Claims 1-12, 15-18 and 22-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Malmqvist et al. (U.S. Patent No. 5,492,840) in view of Natsumme et al.

Claims 19-21 remain allowable over the art of record but are objected to for depending on rejected base claims.

**IV. Arguments**

The Examiner has maintained the same bases for rejection and alleges that “[n]o specific dielectric material is recited in Claim 1, so, as claimed, any synthetic resin will have the required s-polarization property” (Office Action dated November 5, 2007, page 4, lines 10-11). By such a reasoning, the Examiner continues to rely upon Naya for allegedly teaching the claimed dielectric block, and the Examiner has not given any patentable consideration to the structural characteristics of the dielectric block formed from a synthetic resin with the particularly recited characteristics, as recited by Claim 1. The Examiner has continued to maintain that Applicant has not submitted any experimental evidence to show that the materials of Naya and Natsume would not have the polarization characteristics as described by Claim 1, and further contends that the rejections are maintained because Applicant has not shown experimental evidence for the lack of affinity of the materials disclosed by the cited art.

Applicant respectfully submits that the Examiner has not carried the burden of maintaining the rejections. The primary deficiency relates to the fact that the materials disclosed at least by Naya and Natsume do not appear to expressly or inherently include the limitation on s-polarization as claimed. Therefore, the combinations of the cited references all fail to teach or suggest the claimed invention.

Although the Examiner states on lines 13-15 of page 4 of the Office Action dated November 5, 2007 that “[t]here is no language that suggests any true structural limitations for providing the s-polarization limiting properties, other than the block be of synthetic resin,” the clearly recited and claimed characteristics of the dielectric block formed from synthetic resin is

incorrectly dismissed by the Examiner as allegedly not having any significance in defining structural characteristics of the claimed dielectric block formed from synthetic resin. The Examiner has thus misinterpreted any synthetic resin to read upon the claimed dielectric block formed from synthetic resin. Claim 1 describes, in part,

said dielectric block is formed from a synthetic resin in which, when said light beam is p-polarized outside said dielectric block and then strikes said interface, the intensity of an s-polarized component at said interface is 50% or less of the intensity of said light beam at said interface.

As an initial matter, the Examiner had previously contended that the recitation above comprise either 1) functional limitations or 2) intended use. See July 19, 2006 Office Action, page 4. To the extent that the Examiner maintains this basis of rejection (Office Action of April 10, 2007, paragraph 5), Applicant again submits the following comments.

On matter 1), Claim 1 recites a dielectric block but also requires the dielectric block to include certain structural characteristics. These structural characteristics are such that the s-polarization of light be limited in the dielectric block. Though this feature of the dielectric is described in functional terms, it is the structure of the block that results in the polarization characteristics as claimed. Therefore, the recitation should be given full consideration as a structural recitation. Claim 1 need not specifically recite the structure by which the s-polarization becomes limited because this would unduly limit the invention to only preferred embodiments. Applicant need not limit the claims in this way, especially in view of the clear deficiencies in the rejection. Because the Examiner has not cited any other reference that includes the above aspect, Applicant should be entitled to any dielectric structure that includes the above limits on s-polarization. As exemplary embodiments, the s-polarization may be limited by the ability of a particular material to suppress double refraction (birefringence), the shape of the block, and/or whether a weld is formed within the dielectric during formation of the block. From these examples, it is clear that multiple structures can provide the s-polarization

limitation. Thus, the cited recitation denotes a structural feature and not merely a functional aspect as the Examiner contends.

On matter 2), the Examiner contends that if p-polarized light is not used, then the recitation has no applicability. However, Claim 1 is directed to a surface plasmon resonance (SPR) device. One skilled in the art would understand that p-polarization must be imparted in order for SPR to occur. The Examiner's own cited art supports this position. See Malmqvist, col. 1, lines 66-67. Therefore, the use of p-polarized light is not a field of use recitation or an optional recitation that allows use of non-p-polarized light since the entire device would not be an SPR device in the absence of the p-polarization. Claim 22 describes this aspect more particularly.

Applicant submits that the Examiner continues to rely improperly on inherency to maintain the rejection. The limitation on the s-polarization is an express feature of Claim 1. In order to maintain the rejection, the prior art must expressly or inherently disclose this feature. The Examiner appears to concede that none of the cited art expressly teaches the feature on the limited s-polarization. However, the Examiner relies on inherent teachings of this feature in the prior art, pointing to disclosed materials. This is insufficient. The Examiner cannot rely on possibilities or probabilities to support a rejection. Rather, the Examiner must demonstrate that the claimed feature is necessarily present. The Examiner has not done this. Any deficiencies in the references' teachings become the Examiner's burden to correct, not the Applicant's burden to demonstrate otherwise. *In re Robertson*, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999) Thus, the Examiner has improperly and prematurely shifted the burden to Applicant to demonstrate that the feature is lacking in the art.

Contrary to the Examiner's contention, Applicant has cited sufficient evidence to rebut any purportedly inherent characteristics. Applicant's submission under 37 C.F.R. § 1.114 clearly demonstrates that Natsuumé clearly cannot meet the limitations as claimed. For example, Reference 3 (of the Rule 1.114 Submission) shows a cycloolefin polymer having a substantial amount of birefringence, indicated by the white portions. One skilled in the art would

understand that birefringence corresponds to an area of dual refraction, which would cause a change in polarization. The amount of birefringence shown in Reference 3 is substantial. Thus, Applicant has provided the technical data as to why Natsumme does not include the limitations on s-polarizations as claimed by Claim 1, and further limited in Claims 2 and 3. With further regard to Claims 2-3, the Examiner cannot demonstrate that the s-polarization is limited to such extent as described by these dependent claims. Therefore, Claims 1-3 are patentable for all the above reasons.

Because Reference 3 shows cycloolefin polymers would not inherently limit s-polarization as claimed, it is thus also true that synthetic resins generally (of which cycloolefin polymers is included) also would not inherently include such polarization characteristics. Thus, the polycarbonate of Naya also would not inherently include all features of Claim 1 or its dependent claims.

#### V. Conclusion

Although the claimed structural characteristics of the dielectric block formed from synthetic resin is clearly recited by representative Claim 1, the Examiner has failed to consider such claimed characteristics when relying on the cited reference to teach a synthetic resin. Therefore, the Examiner errs when not giving the claimed recitation its full consideration as a structural recitation.

In view of the foregoing, it is respectfully submitted that Claims 1-12, 14-18 and 22-25 are allowable. Please charge any fees which may be required to maintain the pendency of this application, except for the Issue Fee, to our Deposit Account No. 19-4880.

Respectfully submitted,



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